A game to relive Don Quixote's adventures.

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Abstract. Don Quixote is the main character of the famous novel written by Miguel de Cervantes originally entitled The Ingenious Gentleman Don Quixote of La Mancha. In this paper, we propose a serious game to relive the adventures of this character. The axis of our game will be the cervantist world. Following the novel structure we will consider the chapters independently and for each chapter we will reproduce the narrated adventure in a realistic 3D scenario where Don Quixote and Sancho Panza have to face different challenges. These challenges will be presented as mini-games with variety enough to maintain the attention of the player and avoid boring him doing the same action for a long time. To introduce the game we will give a detailed description of the most known chapter of the novel that relates how Don Quixote fights windmills that he imagines to be giants.

1 Introduction

The term Serious Games was introduced by David Rejeski and Ben Sawyer, in their white paper Serious Games Initiative (2002), as entertaining games with non entertainment goals [14]. Since this first definition, many different ones have been proposed. Amongst them, Michael and Chen [10] defined serious games as games that educate, train and inform. Zyda [19] defined serious games as a mental contest, played with a computer in accordance with specific rules, that uses entertainment to further government or corporate training, education, health, public policy, and strategic communication objectives. Although there is no single definition of the serious game concept, all the proposed definitions convey the same idea which is using games to teach or transmit something. This has lead some analysts to describe them as the next wave of technology-mediated learning [2]. Serious games are present in many areas, including military, health, business, social, science, manufacturing, medical, education and training. In this paper we will focus on the educational area. We will present a serious game to relive Don Quixote's adventures (see Figure 1). Don Quixote is the main character of the famous novel written by Miguel de Cervantes originally entitled The Ingenious Gentleman Don Quixote of La Mancha and published in 1605 and 1615 as two separate volumes.

Cervantes conceived Don Quixote [4] as a parody of chivalry books. The book starts with Don Quixote madness, caused by his reading of this kind of books [13]. But this beginning is soon overtaken when book's main characters, Quixote and Sancho, become more and more realistic, flesh and bone ones. In Chapter VIII, "The windmills adventure", the second sortie of Don Quixote, for the first time Quixote and Sancho talk to each other, and this dialogue will drive from now on along the book the progress of the narrative, with main components the friendship, the empathy, the humour. The reader (or in our case the player) will easily identify him or herself with the idealism of Quixote or the realism of Sancho, or with a mixture of both. The cervantist world will be the axis of our game. Cervantes devised the book as road stories where the two main characters confront adventures with giants, fullers, enchanted castles, kidnapped damsels. It was a work conceived to be mainly read aloud to non-illustrated plain people to laugh at the follies of Don Quixote. From the very beginning Cervantes tried to make his book accessible to all readers. This principle has been retaken by known scholars nowadays in adapted editions for children and young people who keep the spirit of the original book [7,5]. Quixote keeps obstinately in obtaining what he desires, not even taking account of Sancho's advices to not charge the windmills that he believes are giants. Thus, the pertinacity in getting his objectives will be an essential element of the game. The player will learn from his/her errors to avoid the obstacles. In this way the narrative viewpoint of Don Quixote character and the one of the player will become a single one, so the player in front of failures will react with cervantist humour: a sorcerer made him/her fail. Don Quixote character is an example of resiliency: in spite of failures he will never weaken away, always ready for new adventures. The reality is not unique, for Don Quixote windmills are giants, a rough peasant maid will be Dulcinea, a barber's shaving bow will be Mambrino's helmet, he believes he has been made knight [13], Sancho believes he is governor of Insula Barataria. Interestingly Mark Twain's used explicitly this perspectivism in his Aventures of Huckelberry Finn [17], where Tom Sawyer takes the role of Quixote and Huck the Sancho's one. Quoting American crime writer Jim Thompson [8]: 'There are thirty-two ways to write a story, and I've used every one, but there is only one plot things are not as they seem.' The player of the game will participate of the multiplicity of narrative planes.

2 Related Work

In this section, we will review some of the proposals that have been done to make the Don Quixote book more accessible to readers. Amongst these proposals, there are interactive applications such as the Interactive Quixote [15] a project offering an innovative approach to the first edition of Quixote conserved in the assets of the Spain National Lybrary. Thanks to this initiative, it is possible to read Don Quixote as if you had the book in your hands, while at the same time accessing multimedia content which help contextualise the work. The initiative started with high quality digitalisation of the copies the Biblioteca Nacional holds of

Fig. 1. The logo of the Don Quijote game.

the first edition of Don Quixote: those published in Madrid in 1605 and in 1615; an interactive portal has been constructed around this new digitalisation, to which maps, engravings and other content has been added, taken from 43 different editions of Don Quixote and from a further 21 works. The Adventures of Don Quixote [1] is a storybook app that includes many interactive elements essential for young readers. Juniors can play with the jigsaw puzzle and help out Don Quixote wield his armor suit, tap and smear the pages to find 14 hidden shields, drag a match to light a fire, spin the windmill in any direction they wish, paint with magical ink, play a Tower of Hanoi mini game and turn the pieces of a page into a unique puzzle. The book is narrated in two languages, English and Spanish. It allows to record up to two different user voices as custom narrations for the book. In 1979 it was presented *Don Quijote de La Mancha* television series created by TVE, the spain national television channel[16]. These series narrate the adventure of the knight in a comical way, so that children can watch it while having fun, and meanwhile learn the story of the original book. At the moment of emission, it had a good reception, and the series is well known for being faithful to the book and for helping the story of Don Quixote to be better known in a new generation. The Super Don Quixote game based only in the novel for the characters [18]. This is an arcade videogame created by Universal in 1984. The story starts when a wizard captures Dulcinea, the fairest maiden of the kingdom, and Don Quixote (a much younger version of the literary knight) has to go through hordes of enemies to rescue the damsel in distress. The game progress is based on quick time events where the player must do the correct action so that Don Quixote proceeds in his adventure successfully. Another game came out in 1987, called Don Quijote, developed for SPECTRUM, AMSTRAD, C64, MSX y PC by Dinamic Software [6]. It was based on the television series of 1979 *Don Quijote de la Mancha*. The game was a conversational adventure game, where the player had to give orders centered on a verb and a noun, and then the game would try to execute the action the verb describes on the object the noun defines. It was an excellent game at the time, well received by critics, and it is one of the games more faithful to the original story. More recently, in 2010 was presented Don Quixote, a board game published by Pegasus Spiele [12]. Don Quixote within his imagination creates his own Principality the way he

considers it right: knights should protect their castle and country boundaries, roads that connect windmills and churches together. The player who can fill their Principality with the best roads and guards its castles and boarders with knights will gain the most points and win the game.The game also has an Android and IOS adaptation.

There are also games that even though have a different topic they have a similar gameplay to the proposed one. Professor Layton [9] is a videogame series developed by Level-5, which released its first game on 2007 and is still releasing and developing new games. The game is a puzzle adventure game where there is a story, usually about the main character, professor Layton, being called to a remote town to solve a mysterious case. The type of gameplay revolves around the player solving puzzles and minigames to proceed in the story, or to help people in the town the game is developing as side quests. The game is critically acclaimed as one of the best puzzle game. Mario Party [11] is a series of games developed by Nintendo, which released its first game in 1998 for the Nintendo 64. The game is a multiplayer board game with minigames in between turns. The game was developed with no story whatsoever, and with the only objective to face players against each other in the board game and the minigames in between in order for one of them to win. The series is critically acclaimed as one of the best videogames featuring a great assortment of different play style minigames for the players to enjoy, and Nintendo is still developing new games for the series. Ace Attorney [3] is a series of games developed by Capcom for the Nintendo set of portable consoles, from the Game Boy Advance to the Nintendo 3DS. The games features a gameplay where the player interact with the people of the game as an attorney that helps those who are in trouble with the law and he deems worthy an innocent. Each games contains a series of cases where the player as the attorney has to solved the clues he finds, through solving minigames or puzzles, to unfold the truth behind the case. The game has always had good reception, though it is not as notable as the other examples descripted here.

3   Game Description

The game objective is to introduce the Don Quixote's novel to the player. With this purpose the game will reproduce the adventures of Don Quixote's novel giving the player the chance to relive them in first person.

Following the novel structure we will consider the chapters independently, and for each chapter we will reproduce the narrated adventure in a realistic 3D scenario where Don Quixote and Sancho Panza have to face different challenges. These challenges will be presented as mini-games with variety enough to maintain the attention of the player and avoid boring him doing the same action for a long time. (see Figure 2). Additionally, we will define a scoring strategy that allows player to play the game as many times as desired to improve his score, as well as compete against other players scores. Moreover, to fit to the user profile we will define three levels of difficulty for each one of the mini-games. To con-

textualize in the epoch of the novel, from easiest to the most difficult one, the levels are denoted as page, servant, and knight.

Fig. 2. Each chapter of the Quixote's novel is decomposed in a set of mini-games.

To better describe these mini-games, in this section, we are going to consider the most known chapter of the novel that relates how Don Quixote fights windmills that he imagines to be giants. We will see how the chapter is decomposed in different parts and the mini-games designed for each one of these parts.

3.1 The windmills chapter

The windmill chapter can be summarized as follows. Don Quixote and Sancho come to a field of windmills, which Don Quixote mistakes for giants. Don Quixote charges at one at full speed, and his lance gets caught in the windmills sail, throwing him and his horse to the ground. Sancho helps him to recover from the situation. When it becomes clear to Quixote that this is a field of windmills, he argues that an evil enchanter has transformed the giants into windmills in order to rob Quixote of a dashing victory. To be prepared for new victories he decides to create a new lance using a branch of a tree.

To reproduce the chapter we created three different mini-games. The first one reproduces the Don Quixote's giants fight, the second one, the Sancho Panza rescue and, the last one, the creation of the lance from a branch. In all the games time and score vary according to the level of the player. A detailed description of each mini-game is given below.

The giants fight This mini-game scenario reproduces a field with windmills and Don Quixote, with lance at hand, riding his horse. The windmills become giants and Don Quixote is decided to fight against them. The player takes control of this scenario, he is Quixote and he has to defeat giants.

The mini-game presents two challenges. In the first one, the player has to reach the giant following a path full of obstacles and he has to avoid collisions.

In the second one, the player has to keep the Quixote's lance at hand and pointing at the center of the screen. The main difficulty is due to wind that deviates the lance from this position. This mini-game has been designed to train reflexes and coordination, since the player has to reach the windmill with the minimal number of collisions, minimal deviation of the lance correct position, while maintaining the maximum possible speed to get higher score.

Player gives orders to the horse to avoid obstacles. He can make it to turn left, turn right, accelerate and brake. Along his way the number of obstacles increases. If he is not able to avoid them, in the first obstacles the horse jumps over, but when he has a number of collisions the horse stumble and he has to start again. Simultaneously, the player has to control the lance against wind which variates in speed and direction along the way. The lance control is through the mouse. The more the lance deviates from the center, the more the wind effects impact on the correct position. The extreme situation is when the lance falls. In this case, the player has to start again. Once the player reaches a giant he has to touch one of the giant arms and the giant will transform in a windmill. In this moment, Quixote will fall down unconscious from his horse.

Recovering Don Quixote In this mini-game, we reproduce the scenario after the giant fight. Quixote is unconscious on the ground and Sancho Panza comes to his aid. Now the player is Sancho and his objective is to take Quixote back to his horse while semi-unconscious and stumbling.

In this case there are three challenges. In the first one, Sancho has to help Quixote to raise from the ground. There is a bar to show Sancho strength that increases and decreases and the player has to select the ideal strength to raise Quixote. Once, Quixote stands up, there is a second challenge, Quixote has to support on Sancho's shoulder. As in the first challenge, there is a strength bar that indicates the correct strength to carry out the action. In this case response time is very important and if the player spends more time than it was expected Quixote will fall down again. In the last challenge, Sancho has to help Quixote to mount the horse. To reach this goal, we have to press a key in an specific moment. If it is not done in the correct moment, Quixote will fall down, the horse will go away and the game will start again. The game has been designed to train accuracy and reflexes.

The broken lance In the giants fight Quixote's lance has been broken. Quixote has to make a new lance from a tree branch. In this mini-game, a forest is reproduced and the player takes the Quixote role, who has to select a strong branch and, after cleaning it, make a proper lance, all of this before it gets dark.

There are two challenges, the first one is to find the proper branch and the second one, to properly clean and cut the lance from it. All trees are full of branches with which we can interact, we have to find a straight enough one to be a lance. Once the branch has been chosen we have to prepare it by removing leftover twigs. To carry out this process we present the branch in a first plane and the player can move and select via mouse the twigs he wants to remove.

If the branch is not a proper one, during the cleaning process it will break and we will have to start again. The mini-game is completed when the new lance is done. In this moment, we will see Don Quixote and Sancho Panza around a fire at night in the woods. This is the end of the chapter. The game has been designed to improve player perception of objects and time.

4   Implementation

Unity3D has been used to implement Don Quijotes game. Unity3D is a cross-platform game engine, that can support Mac OSX and Win- dowsXP/Vista/7/8. It supports three scripting languages: JavaScript, C#, and a dialect of Python called Boo. All three are equally fast and interoperate, and can use the underlying .NET libraries which support databases, regular expressions, XML, file access and networking. Although scripting is frequently considered as limited and slow, in Unity3D scripts are compiled to native code and run nearly as fast as C++. In the project all the game scripts have been programmed in C#.

In our game the book's chapters are represented in different scenarios. Each scenario corresponds to one mini-game with a set of rules that describe what players can and cannot do, and what should happen in response to player actions. These rules construct a state machine that responds to player action. We have programmed these state machine as an external library denoted EventManager. To better understand our implementation please see Figure 3. To start the player selects from a menu the chapter he wants to explore and, for that chapter, the scenario. The player has to follow the correct order, which means that to visit one scenario all previous ones has to have been solved. This restriction is imposed to guarantee that the chapter is relived in the correct order. Once the scenario has been selected the states will connect with the EventManager. This library contains the events, which have been categorized as general, particular and quick time events. General events are common to all the game, for instance, menu actions or pause. Particular events are related to a specific scenario, for instance, the lance deviation in the giants fight adventure. Quicktime events control events such as the prompt that will appear when Sancho tries to raise Quixote. The correct performance of all these events is controlled by the DispatcherManager.

5   Results

In this section we present some of the game images. For a demo you can visit http://gilabparc.udg.edu/jocs/quijote/demo.html where a teaser of one of the adventures is presented.

In Figure 5 we present in images (a) and (b) the main characters of the game, Don Quixote and Sancho Panza, we also present Rocinante, Don Quixote's horse. Images (c) and (d) illustrate two different scenes of the giants fight adventure, the first one, shows the windmills and, the second one, the windmills transformed in giants. Image (e) illustrates the way to the windmills, we can see the obstacles in the way presented as stones. In image (f) the player as Don Quixote has to
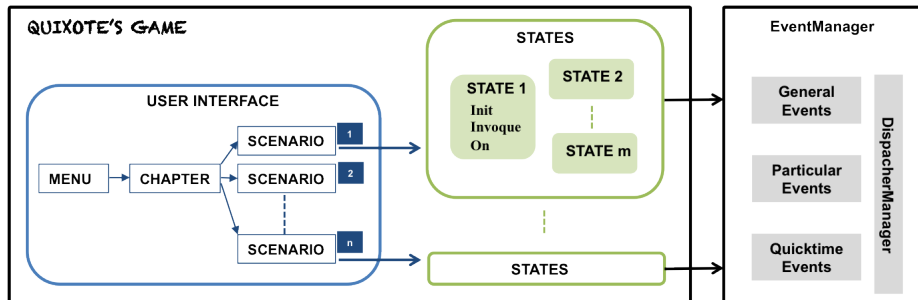
Fig. 3. Scheme of the game implementation.

avoid stone collisions while preserving the lance in the correct central position. In image (g) Sancho is going towards Quixote who is lying on the ground after the giants fight, this image is from the Quixote's rescue adventure. The last image, image (h), illustrates a detail of the broken lance adventure where Quixote keeps a branch in the hand.

6   Conclusions

In this paper, we have presented the Don Quixote's game, designed to introduce the Don Quixote's novel to the player by reliving Quixote's adventures in first person. Following the novel structure we consider the chapters independently, and for each chapter we reproduce the narrated adventure in mini-games with realistic 3D scenario, and where Don Quixote and Sancho Panza have to face different challenges. We presented the chapter implemented so far, the episode of the windmills, with three mini-games, The giants fight, The broken lance, and Recovering Don Quixote.

Our current and future work is centered on the implementation of the other chapters of the book.

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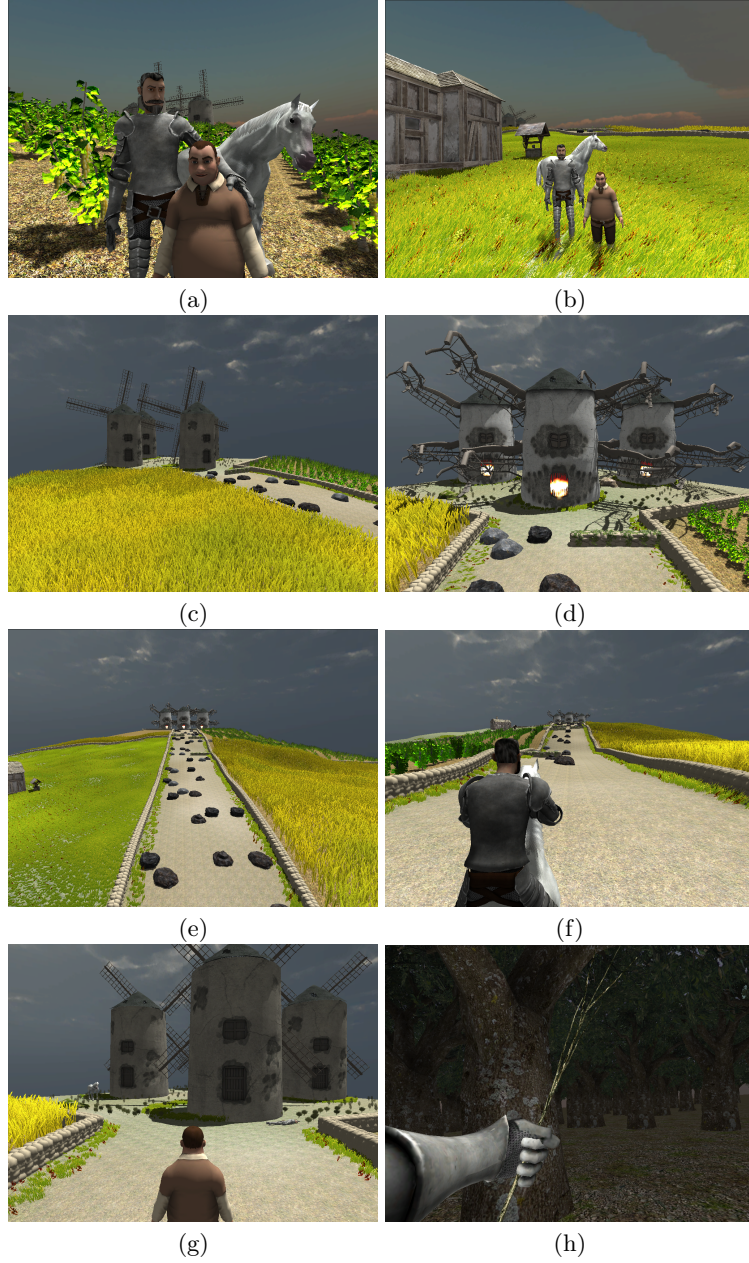
Fig. 4. Images of the Don Quixote's game

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